

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMEISTER END THEORY EXAMINATION, B.TECH. (D.T.) DEGREE COURSE 2017-18**

Semester	: III (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DT-305	Course Title	: Ice Cream and Frozen Desserts
Credits	: 2+2=4	Total Marks	: 50
Day & Date	: Monday, 08.01.2018	Time	: 15.00 to 17.00 Hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
  - 2) Solve **Any Five** questions from **Section 'B'**.
  - 3) All questions carry equal marks.
  - 4) Draw neat and well labelled diagram wherever necessary.

**SECTION – 'A'**

Q. 1 A) Choose the most appropriate answer from the options given below. (05)

- i) The permitted level of emulsifiers and stabilizers in ice cream as per PFA rules should be (maximum) .....
  - a) 0.5%
  - b) 5%
  - c) 5.5%
  - d) 2%
- ii) Ice cream sold directly from the freezer without hardening is known as .....
  - a) Sherbet
  - b) Soft ice cream
  - c) Ices
  - d) Fruit ice cream
- iii) As per BIS standards should be minimum milk fat percentage in ice cream .....
  - a) 15
  - b) 20
  - c) 10
  - d) 25
- iv) Formation of large ice crystals in ice cream can be prevented by using .....
  - a) Sugar
  - b) MSNF
  - c) Fat
  - d) Stabilizers
- v) The whipping ability of ice cream mix can be improved by the addition of .....
  - a) Emulsifiers
  - b) Stabilizers
  - c) Sweeteners
  - d) Acidifiers

B) Give the reasons / characteristics for the following defects. (05)

- i) Slow melt down
- ii) Shrinkage
- iii) Fluffy texture in Ice cream
- iv) Gummy
- v) Soggy body

Q. 2. A) Do as directed. (05)

- i) Write down the two examples of stabilizers used in ice cream.
- ii) Write down the two examples of emulsifiers used in ice cream.
- iii) Give the reason for icy texture defect in ice cream.
- iv) What is the role of corn syrup solids in ice cream preparations?
- v) What is mean by filled ice cream?

B) Give product description in one or two lines. (05)

- i) Mellorine
- ii) Chocolate ice cream.
- iii) Ices
- iv) Puddings
- v) Fruit ice cream

(P.T.O.)



## SECTION – 'B'

- Q. 3 Describe the present status and recent developments of ice cream industry in India with future prospects. (06)
- Q. 4 Give BIS standards for ice cream and explain in detail the manufacturing process of ice cream with suitable flow diagram. (06)
- Q. 5 Define stabilizer and emulsifiers. Briefly describe the role of stabilizer and emulsifiers in ice cream manufacture. (06)
- Q. 6 a) Explain the role of different milk constituents in ice cream manufacture. (03)  
b) Give the commercial classification of ice cream and related products. (03)
- Q. 7 a) Write a note on types of freezers used in Ice cream industry. (03)  
b) Briefly describe the functioning of continuous ice cream freezer with suitable diagram. (03)
- Q. 8 Write short notes on the following (Any Two).  
a) Dried ice cream mix. (02)  
b) Packaging of ice cream. (02)  
c) Care and maintenance of ice cream freezers. (02)
- Q. 9 a) Give the sequence of observation for sensory evaluation of ice cream. (02)  
b) What are the different defects commonly found in ice cream. Explain their causes and preventive measures. (04)

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